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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,839	02/22/2002	Olaf Josef Hirsch	US 028013	1187

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EXAMINER	
HO, CHUONG T	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/082,839	HIRSCH ET AL.	
	Examiner	Art Unit	
	CHUONG T. HO	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The amendment filed 07/05/06 have been entered and made of record.

2. Applicant's arguments filed 07/05/06 have been fully considered but they are not persuasive.

In the page 7, lines 20-22, the applicant alleged that "the instant applicants respectfully submit that each of the phrases "capable of" and "capability of" in claims 1, 14, and 18 carries patentable weight, and "cannot be ignored".

The examiner respectfully disagrees.

2111.04 [R-3] "Adapted to," "Adapted for," "Wherein," and "Whereby" Clauses
Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. However, examples of claim language, although not exhaustive, that may raise a question as to the limiting effect of the language in a claim are:
(A) " adapted to " or "adapted for " clauses;
(B) " wherein " clauses; and
(C) " whereby " clauses.
The determination of whether each of these clauses is a limitation in a claim depends on the specific facts of the case. In Hoffer v. Microsoft Corp., 405 F.3d 1326, 1329, 74 USPQ2d 1481, 1483 (Fed. Cir. 2005), the court held that when a "whereby' clause states a condition that is material to patentability, it cannot be ignored in order to change the substance of the invention." Id. However, the court noted (quoting Minton v. Nat 'l Ass 'n of Securities Dealers, Inc., 336 F.3d 1373, 1381, 67 USPQ2d 1614, 1620 (Fed. Cir. 2003)) that a "whereby clause in a method claim is not given weight when it simply expresses the intended result of a process step positively recited.'" Id.<

In the page 8, lines 15–16, the applicant alleged that "the cited references alone, or in combination, fail to anticipate or render obvious the present invention as recited in claim 1 "the OFDM station learn of the modulation capability of the intended receiving station and transmits OFDM modulated data if the receiving station is capable of OFDM

modulation and transmits DSSS/CCK modulated data if the receiving station cannot decode OFDM modulation".

The examiner respectfully disagrees.

Li et al. disclose the OFDM station learn of the modulation capability (may or may not) of the intended receiving station and transmits OFDM modulated data if the receiving station is capable (may or may not) of OFDM modulation and transmits DSSS/CCK modulated data if the receiving station cannot decode OFDM modulation (see figure 13, col. 11, lines 25-43, each base station periodically broadcast pilot OFDM symbols to every subscriber within its cell (or sector)...each subscriber continuously monitors the reception of the pilot symbols and measures the SINR and/or other parameter,...each subscriber selects one or more clusters with good performance....and feed back the information on these candidate clusters to the base station through predefined uplink) (see col. 11, lines 65-67, the feedback of information from each subscriber to the base station contains a SINR value for each cluster and also indicates the code/modulation rate that the subscriber desires to uses) (see figure 3, figure 11, col. 12, lines 24-25, the base station also informs the subscriber about the appropriate modulation/coding rates) (see col. 5, lines 63-67, a switch 304 (or duplex) couples CDMA receiver 305 and OFDM transmitter 306 to antenna 314 one at a time. Switches/duplexers 304 and 303 allow antennas 311 and 310 respectively, to be used for both transmission and reception simultaneously).

Clearly, Li et al. disclose the OFDM station learn of the modulation capability (may or may not) of the intended receiving station and transmits OFDM modulated data if the

receiving station is capable (may or may not) of OFDM modulation and transmits DSSS/CCK modulated data if the receiving station cannot decode OFDM modulation

3. Claims 1-20 are pending.

Claim Objections

4. Claim 1 is objected to because of the following informalities:

In the claim 1, page 12, line 2, the word "capable of " and in page 12, lines 5, the word "capability of" are used.

According to MPEP 2111.4 Claim scope is not limited by claim language that suggest or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. Therefore appropriate correction is required.

Similarly for the following claims appropriate correction is required;

5. Claim 14 is objected to because of the following informalities:

In the claim 14, in page 13, lines 23-24, the word "capability of" and in the page 14, lines 1-2, "capable of" are used.

According to MPEP 2111.4 Claim scope is not limited by claim language that suggest or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. Therefore appropriate correction is required.

6. Claim 18 is objected because of the following informalities:

In the claim 18, in page 14, line 17, the word "capability of " and in the page 14, line 18, the word "capable of " are used.

According to MPEP 2111.4 Claim scope is not limited by claim language that suggest or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. Therefore appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (U.S.Patent No. 6,940,827 B2) in view of Young et al. (U.S.Patent No. 6,990,116 B1).

In the claim 1, see figure 11, Li et al. discloses a method and apparatus for wireless communication are described. In one embodiment, a method for communicating with a subscriber (transmitting station) comprises transmitting orthogonal frequency domain multiplexing (OFDM) signals to the subscriber (an intended receiving station) , and receiving direct-sequence spread spectrum (DSSS) (or W-CDMA) signals from the subscriber (an intended receiving station); comprising:

- At least one OFDM station (see figure 11, col. 10, lines 53-60, units or subscribers) capable of transmitting and receiving OFDM and DSSS/CCK modulated data (see col. 10, lines 53-62, the system may include other units (e.g., subscribers) that have CDMA transmitter and receivers and either an OFDM transmitter or receiver or both. Similary, other unit (s) may be in the communication system and have CDMA transmitter and a CDMA receiver without having OFDM communication capabilities. On the other hand, the additional unit (s) may have OFDM communication capabilities (OFDM) transmiiter and / or receiver) yet no CDMA communication capabilities);
- An intended receiving station (see figure 11, col. 10, lines 53-62, units or subsribers);
- Wherein, the OFDM station learns of the modulation capability of the intended receiving station and transmits OFDM modulated data if the receiving station is capable of OFDM modulation and transmits DSSS/CCK modulated data if the receiving station cannot decode OFDM modulation (see col. 11, lines 64-66, the feedback of information from each subscriber to the base station contains a SINR value for each cluster and also indicates the coding/modulation rate that subscriber desires to use) (each subscriber continuously monitor the reception of the pilot symbols and measures the SINR and/or other parameters, including inter-cell interference and intra-cell traffic, of each cluster (processing block 1302). Based on this information, each subscriber selects one or more clusters with good performance (e.g., high SINR and low traffic loading) relative to each

other and feed back the information on these candidate clusters to the base station through predefined uplink access channels).

However, Li et al. are silent to disclosing a wireless local area network.

Young et al. discloses a wireless local area network (see abstract).

Both Li et al. and Young et al. are wireless network communication. Young recognizes wireless local area network. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li with the teaching of Young to provide the wireless local area network in order to increasing throughput in wireless network communications. Therefore, combined system would have been enable to provide more efficient use of bandwidth through a wireless network, especially when the load conditions are heavy.

9. In the claim 14, see figure 11, Li et al. discloses a method and apparatus for wireless communication are described. In one embodiment, a method for communicating with a subscriber (transmitting station) comprises transmitting orthogonal frequency domain multiplexing (OFDM) signals to the subscriber (an intended receiving station) , and receiving direct-sequence spread spectrum (DSSS) (or W-CDMA) signals from the subscriber (an intended receiving station); comprising:

- At least one OFDM station (see figure 11, col. 10, lines 53-60, units or subscribers) capable of transmitting and receiving OFDM and DSSS/CCK modulated data (see col. 10, lines 53-62, the system may include other units (e.g., subscribers) that have CDMA transmitter and receivers and either an OFDM transmitter or receiver or both. Similary, other unit (s) may be in the

communication system and have CDMA transmitter and a CDMA receiver without having OFDM communication capabilities. On the other hand, the additional unit (s) may have OFDM communication capabilities (OFDM) transmiiter and / or receiver) yet no CDMA communication capabilities);

- An intended receiving station (see figure 11, col. 10, lines 53-62, units or subsribers);
- Wherein, the OFDM station learns of the modulation capability of the intended receiving station and transmits OFDM modulated data if the receiving station is capable of OFDM modulation and transmits DSSS/CCK modulated data if the receiving station cannot decode OFDM modulation (see col. 11, lines 64-66, the feedback of information from each subscriber to the base station contains a SINR value for each cluster and also indicates the coding/modulation rate that subscriber desires to use) (each subscriber continuously monitor the reception of the pilot symbols and measures the SINR and/or other parameters, including inter-cell interference and intra-cell traffic, of each cluster (processing block 1302). Based on this information, each subscriber selects one or more clusters with good performance (e.g., high SINR and low traffic loading) relative to each other and feed back the information on these candidate clusters to the base station through predefined uplink access channels).

However, Li et al. are silent to disclosing a wireless local area network.

Young et al. discloses a wireless local area network (see abstract).

Both Li et al. and Young et al. are wireless network communication. Young recognizes wireless local area network. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li with the teaching of Young to provide the wireless local area network in order to increasing throughput in wireless network communications. Therefore, combined system would have been enable to provide more efficient use of bandwidth through a wireless network, especially when the load conditions are heavy.

10. In the claim 18, see figure 11, Li et al. discloses a method and apparatus for wireless communication are described. In one embodiment, a method for communicating with a subscriber (transmitting station) comprises transmitting orthogonal frequency domain multiplexing (OFDM) signals to the subscriber (an intended receiving station) , and receiving direct-sequence spread spectrum (DSSS) (or W-CDMA) signals from the subscriber (an intended receiving station); comprising:

- At least one OFDM station (see figure 11, col. 10, lines 53-60, units or subscribers) capable of transmitting and receiving OFDM and DSSS/CCK modulated data (see col. 10, lines 53-62, the system may include other units (e.g., subscribers) that have CDMA transmitter and receivers and either an OFDM transmitter or receiver or both. Similary, other unit (s) may be in the communication system and have CDMA transmitter and a CDMA receiver without having OFDM communication capabilities. On the other hand, the additional unit (s) may have OFDM communication capabilities (OFDM) transmiiter and / or receiver) yet no CDMA communication capabilities);

- An intended receiving station (see figure 11, col. 10, lines 53-62, units or subsribers);
- Wherein, the OFDM station learns of the modulation capability of the intended receiving station and transmits OFDM modulated data if the receiving station is capable of OFDM modulation and transmits DSSS/CCK modulated data if the receiving station cannot decode OFDM modulation (see col. 11, lines 64-66, the feedback of information from each subscriber to the base station contains a SINR value for each cluster and also indicates the coding/modulation rate that subscriber desires to use) (each subscriber continuously monitor the reception of the pilot symbols and measures the SINR and/or other parameters, including inter-cell interference and intra-cell traffic, of each cluster (processing block 1302). Based on this information, each subscriber selects one or more clusters with good performance (e.g., high SINR and low traffic loading) relative to each other and feed back the information on these candidate clusters to the base station through predefined uplink access channels).

However, Li et al. are silent to disclosing a wireless local area network.

Young et al. discloses a wireless local area network (see abstract).

Both Li et al. and Young et al. are wireless network communication. Young recognizes wireless local area network. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li with the teaching of Young to provide the wireless local area network in order to increasing throughput in wireless network communications. Therefore, combined system would

have been enable to provide more efficient use of bandwidth through a wireless network, especially when the load conditions are heavy.

11. In the claims 2, 15, Li et al. discloses the OFDM station (the subscriber or unit) leans of the modulation capabilities of the receiving station when the OFDM station joins the network (see figure 11, col. 10, lines 53-60, units or subscribers) capable of transmitting and receiving OFDM and DSSS/CCK modulated data (see col. 10, lines 53-62, the system may include other units (e.g., subscribers) that have CDMA transmitter and receivers and either an OFDM transmitter or receiver or both. Similary, other unit (s) may be in the communication system and have CDMA transmitter and a CDMA receiver without having OFDM communication capabilities. On the other hand, the additional unit (s) may have OFDM communication capabilities (OFDM) transmiiter and / or receiver) yet no CDMA communication capabilities).

12. In the claim 3, Li et al. discloses the limitations of claim 1 above. However, Li et al. are silent to disclosing the OFDM station (the wireless station) is an access point of the network.

Young et al. discloses the OFDM station (see figure 1, col. 4, lines 17-25, the wireless station) is an access point of the network.

Both Li et al. and Young et al. are wireless network communication. Young recognizes the wireless station is an access point of the network. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Li with the teaching of Young to provide an access point of the network in order to increasing throughput in wireless network communications. Therefore,

combined system would have been enable to provide more efficient use of bandwidth through a wireless network, especially when the load conditions are heavy.

13. In the claim 4, Li et al. discloses the OFDM station (the wireless station) learn (see col. 11, lines 38-40, lines 64-66, monitor, the feedback information) of the respective modulation capabilities of the all other stations present in the network when the OFDM station joins the network.

14. In the claim 5, Li et al. discloses the OFDM station (the wireless station) learns of the modulation capabilities of the receiving station upon detection of a previous frame exchanged over the network by the receiving station (see col. 11, lines 25-43, lines 64-66).

15. In the claim 6, Li et al. discloses comprising an access point (base station) for communicating with the stations and wherein the access point informs (the feedback of information) the OFDM station of the modulation capability of the receiving station (see col. 11, lines 36-43, lines 64-67).

16. In the claim 7, Li et al. discloses wherein the access point (the base station) informs the OFDM station in a transmission opportunity transmitted to the OFDM station (subscribers or units, see col. 11, lines 36-43, lines 64-66).

17. In the claim 8, Li et al. discloses an access point (base station, see col. 11, lines 36-43, lines 64-66) for communicating with the station (subscribers or units, see col. 11, lines 36-43, lines 64-66) and, wherein the OFDM station (subscriber or units) inform the access point of its OFDM modulation capability (code / modulation) during authentication (registration) of the OFDM station (quantities. Unless specifically stated

otherwise as apparent from the following discussion, it is appreciated that throughout the description, discussions utilizing terms such as "processing" or "computing" or "calculating" or "determining" or "displaying" or the like, refer to the action and processes of a computer system, or similar electronic computing device, that manipulates and transforms data represented as physical (electronic) quantities within the computer system's registers and memories into other data similarly represented as physical quantities within the computer system memories or registers or other such information storage, transmission or display devices).

18. In the claims 9, 16, Li et al. discloses the OFDM (subscribers or units) station transmits a request-to-send frame comprising information representative of the OFDM modulation capability and receives a clear-to-send from the receiving station indicating an acceptance of the OFDM modulation (see col. 11, lines 36-43, lines 64-66, col. 12, lines 24-25, the base station also informs the subscriber about the appropriate modulation/coding rates).

19. In the claims 10, 17, Li et al. discloses OFDM station (subscribers or units) transmit OFDM modulated request-to-send and clear-to-send frames to OFDM capable stations of the network (see col. 11, lines 36-43, lines 64-66, col. 12, lines 24-25).

20. In the claim 11, Li et al. discloses the stations operate under the IEEE 802.11 specification (see col. 2, lines 33-35).

21. In the claim 12, Li et al. discloses the stations operate under the IEEE 802.11 specification (see col. 2, lines 33-35).

22. In the claim 13, Li et al. discloses the OFDM station (subscribers or stations) transmits an OFDM modulated request-to-send frame to the receiving station if the receiving station is capable of OFDM modulation (see col. 11, lines 36-43, lines 64-66, col. 12, lines 24-25).

23. In the claim 19, Li et al. discloses the access point (the base station, see col. 12, lines 24-25) informs an OFDM station (subscribers or units) of the network of the modulation capability of another station with which the OFDM desires (see col. 11, lines 64-66) to communicate with.

24. In the claim 20, Li et al. discloses the access point (base station) comprises an hybrid coordinator and transmits a DSSS/CCK modulated opportunity to an OFDM station, the transmission opportunity comprising information representative of the modulation capability (modulation /coding) of a station, with which the OFDM station seeks to communicate.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHUONG T. HO whose telephone number is (571) 272-3133. The examiner can normally be reached on 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

09/12/06

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